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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,743	09/15/2003	Elbert L. McKague JR.	TA-00491C	1536

7590 05/31/2005

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Houston, TX 77208-1389

EXAMINER
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PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/662,743

Applicant(s)

MCKAGUE ET AL.

Examiner

Andrew T. Piziali

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 5/2/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 43-46 is/are pending in the application.
- 4a) Of the above claim(s) 44 and 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 43 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed on 5/2/2005 has been entered.

### ***Election/Restrictions***

2. Newly submitted claims 44 and 45 are directed to an invention that is independent or distinct from the invention originally claimed for the following reason: As indicated in the Office Action mailed 7/16/2004, during a telephone conversation with James Bradley on 6/1/2004 a provisional election was made to prosecute the invention of Species 2, wherein both outer skins are formed from layers of fibers unimpregnated with a resin.
3. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 44 and 45 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,655,633 to Chapman, Jr. (hereinafter referred to as Chapman) in view of USPN 5,863,452 to Harshberger, Jr. et al. (hereinafter referred to as Harshberger) in view of any one of USPN 4,725,059 to Du Gardin et al. (hereinafter referred to as Du Gardin), USPN 5,469,686 to Pykiet, or USPN 5,952,067 to Head.

Chapman discloses a method for fabricating a structure or component comprising:

- (a) creating two skins by laying layers of plies of fiber materials, at least one of the plies in each of the skins containing unidirectional fibers;
- (b) forming fibers into a tubular sock, each sock containing a mandrel;
- (c) placing a first one of the skins onto the inner face of one half of a matched mold;
- (d) placing the sock members onto the first one of the skins so that the sock members are contiguous with one another;
- (e) placing the second one of the skins over the sock members; then
- (f) placing the other half of the matched mold over the second one of the skins; then
- (g) applying a compacting force that results in closure of the halves of the mold; then
- (h) sealing the mold; then
- (i) heating the mold to a temperature for a period sufficient to cause curing of the resin and bonding of the socks to the skins, then removing one of the halves of the mold, withdrawing the mandrels from the socks to define a molded structure, and removing the molded structure from the mold (see entire document including column 16, line 60 through column 18, line 22).

Chapman does not mention braiding fibers into socks to contain the mandrels, but Du Gardin, Pykiet, and Head each disclose that it is known in the fiber reinforced composite art to braid fibers into socks to contain mandrels thus producing self-stable fabrics which conform to the desired shape and in addition possess excellent rigidity, strength, and impact resistance (see entire documents including column 1, lines 23-68 of Du Gardin, column 2, lines 43-51 of Pykiet, and column 1, lines 16-30 of Head). It would have been obvious to one having ordinary skill in the art at the time the invention was made to braid fibers into socks to contain the mandrels, because braided fabric conforms to the desired shape and in addition possess excellent rigidity, strength, and impact resistance.

Chapman discloses that pre-impregnated fiber skins and pre-impregnated socks may be used (column 4, lines 44-48), but Chapman does not specifically mention using unimpregnated skins and unimpregnated socks. Chapman also fails to mention the steps of drawing a vacuum inside the closed mold and subsequently injecting resin into the mold to completely fill void areas. However, Harshberger discloses that it is known in the fiber reinforced composite art to use unimpregnated skins and unimpregnated fibers, and Harshberger also discloses that it is known in the art to draw a vacuum inside the closed mold and subsequently inject resin into the mold to completely fill void areas (see entire document including column 1, lines 10-23, column 4, lines 38-61, and column 5, line 5 through column 6, line 65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to impregnate the structure with any suitable resin impregnation method, such as the injection method taught by Harshberger, because the method is a viable alternative to the use of pre-impregnated fabrics, the method allows for the production of fiber reinforced composites having a large surface area and

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small thickness dimensions, and because it is within the general skill of a worker in the art to select a known method on the basis of its suitability.

*Response to Arguments*

6. Applicant's arguments have been considered but are moot in view of the new grounds of rejection.

*Conclusion*

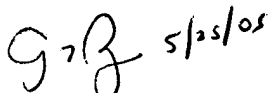
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541.

The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

atp

  
**ANDREW T. PIZIALI**  
**PATENT EXAMINER**